

CONTRIBUTION TO THE KNOWLEDGE OF ANTHOCORIDAE
FROM JAPAN AND ITS ADJACENT TERRITORIES
(HEMIPTERA-HETEROPTERA) 3.*

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Genus *Elatophilus* REUTER, 1884 (Anthocorinae)

***Elatophilus nipponensis* sp. nov. (fig. 1)**

"Hirata-Hanakamemushi"

Colour castaneous; apical three antennal segments and pronotum blackish brown; fore and middle tibiae light brown or stramineous; clavus excepting along the claval commissure whitish stramineous (male with another whitish patch on the cuneal fracture); basal half of hemielytral membrane whitish (anal corner brown), apical half of membrane greyish brown.

Body subparallel, moderately elongate, dorso-ventrally compressed, poorly haired, smooth and shining; hemielytra dull.

Head nearly bare, subcolumnar, very long, much longer than width including both eyes; anteocular portion very long, as long as the width of an eye, in front of antenniferous tubercles distinctly narrowed; vertex broad, three times as wide as an eye; eyes small; ocelli large and prominent. First segment of antennae stout, reaching the apex of head; second segment cylindrical, slightly thickening distally, longer than twice of width of vertex; last two segments spindle shape, of the same length, together as long as the second segment; hairs on distal three segments dense and hardly longer than diameter of each segment; proportions are $I : II : III : IV = 8 : 32 : 16 : 15$. Rostrum long, reaching the apex of fore coxae.

Pronotum nearly bare, posterior margin widely and shallowly concave, three times as wide as anterior margin, 2.4 times as wide as the median length; lateral margins weakly sinuate, the lobe outside of the callus very narrow; collar distinct, rugose; callus centrally smooth, weakly rugose laterally; transverse depression rugose and wrinkled; posterior disc rugose and wrinkled laterally. Scutellum wider than long, sparsely covered with short hairs; the anterior half flat and smooth, posterior half depressed and rugose.

* Contributions from the Osaka Museum of Natural History, No. 102

Hemelytra matted, poorly haired; embolium apically about one third the width of the apex of corium, lateral margin straight, a little shorter than twice of cuneal length; membrane with four obsolete, subparallel veins. Abdomen of female wide, lateral margin of dorsum seen from above.

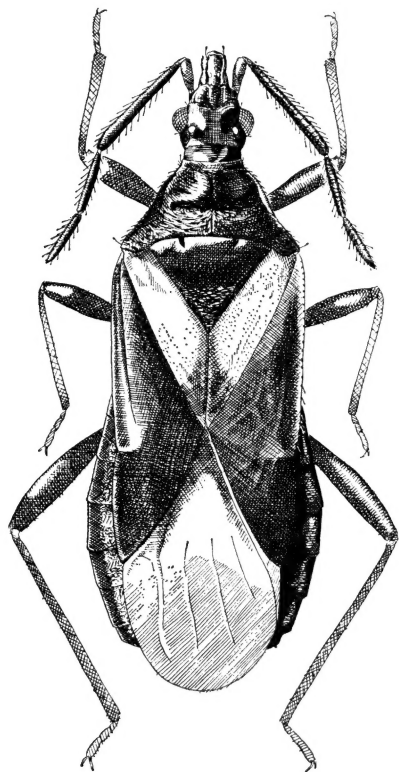


Fig. 1. General aspect of *Elatophilus nipponensis* n. sp. female.

The rima orificiorum of metasternal scent-gland shortly curved forwards at apex and confluent to the longitudinal lateral keel. Legs long and slender; femora smooth, clothed with short pubescence, without particular arms; tibiae with long, oblique pubescence.

Length 3.4 mm., width 1.3mm.

Holotype: ♀, Sugadaira, Nagano Pref., 9. vi. 1935 S. Miyamoto leg. (Coll. Kyushu Univ.). Paratypes: 1 ♀, Obuchizawa, Yamanashi Pref., 30. v. 1941 H. Hasegawa leg. (Coll. Nat. Inst. Agr. Sci.), 1 ♀, Fuchū, Tokyo, 14. v. 1951 M. Takahashi leg. (Coll. Osaka Mus.), 1 ♂, Mt. Hikosan, Fukuoka Pref., 20. v. 1939 H. Hori leg. (Coll. Kyushu Univ.), 1 ♀, Sangunzan, Chikuzen, Fukuoka Pref., 10. v. 1931 K. Yasumatsu leg. (Coll. Kyushu Univ.).

Habits: —Obuchizawa specimen was taken under the bark of dead *Pinus desiflora*. This species perhaps lives on the pine trees like as the other known members of the genus in Europe.

Allied to *Elatophilus nigricornis* ZETTERSTEDT, but easily distinguishable from it by the whitish marking on clavus.

Genus *Xylocoris* DUFOUR, 1831 (Lyctocorinae)

Xylocoris galactinus (FIEBER, 1836) (figs. 2A, 3A₁~A₅, 6)

“Ashibuto-Hanakamemushi”

- 1884 *Piezostethus galactinus* REUTER, Acta Soc. Sci. Fenn., 14 : 590-591
- 1909 *Piezostethus galactinus* POPPIUS, Acta Soc. Sci. Fenn., 37 (9) : 42
- 1930 *Xylocoris galactinus* TORRE-BUENO, Bull. Brookl. Ent. Soc., 25(1) : 11-20
- 1951 *Piezostethus galactinus* HALL, Ent. mon. Mag., 87 (4th ser. 12) : 45-52
- 1953 *Xylocoris galactinus* HOBERLANDT, Bull. Soc. Fouad l'Entom., 37 : 359
- 1953 *Xylocoris galactinus* PRIESNER & ALFIERI, Bull. Soc. Fouad l'Entom., 37(1)
- 1953 *Xylocoris galactinus* CARAYON, Compt. Rend. Acad. Sci., Paris, 236 : 1099-1101
- 1957 *Xylocoris* sp., MIYAMOTO, Sieboldia, 2(1) : 76

1959 *Xylocoris galactinus* STICHEL, Illust. Bestim. Tab. Wanzen Europa, 3 (2) 53-58

1959 *Xylocoris galactinus* SOUTHWOOD & LESTON, Land & Water Bugs Brit. Isl., 185

Distribution: —Europe, North Africa, Greek, Arabia, Syria, Turkey, Central and South Russia, China, Java, North and Central America.

Specimens examined:—Honshu: 1 ♀, Hanaten, Jyotô-ku, Osaka City, viii. 1958 Y. Okada leg.; 3 ♂ 1 ♀, Suwanomori Coast, Sakai City, 29. x. 1953 Y. Maeda leg., 1 ♀, Shômoto, Toyonaka City, 19. x. 1961 I. Hiura leg., 1 ♀, Takarazuka Station, 7. viii. 1958 S. Mizoguchi leg., 1 ♀, Ashiya City, 12. ix. 1961, Y. Shibata leg., 2 ♀, Hiraiso, Higashitarumi, Kôbe City, 4. viii. 1958, 9. ix. 1960 Y. Shibata leg., 1 ♂ 1 ♀, Hishio, Mukai-shima, s. of Onomichi City, 9. vii. 1960 Y. Shibata leg.

Shikoku: 2 ♂, Minaminiken-ya, Tokushima City, 11. vii. 1956, 1. viii. 1956 I. Hiura leg., 22 ♂ 19 ♀, Uetsuno, Jinryo-mura, Tokushima Pref., 12. vii.~22. viii. 1953 I. Hiura leg., 1 ♂ 1 ♀, Shishikui, Kaifu-gun, Tokushima Pref., 26. x. 1962 I. Hiura leg., 3 ♂ 2 ♀ 4 larvae, Nasa Coast,

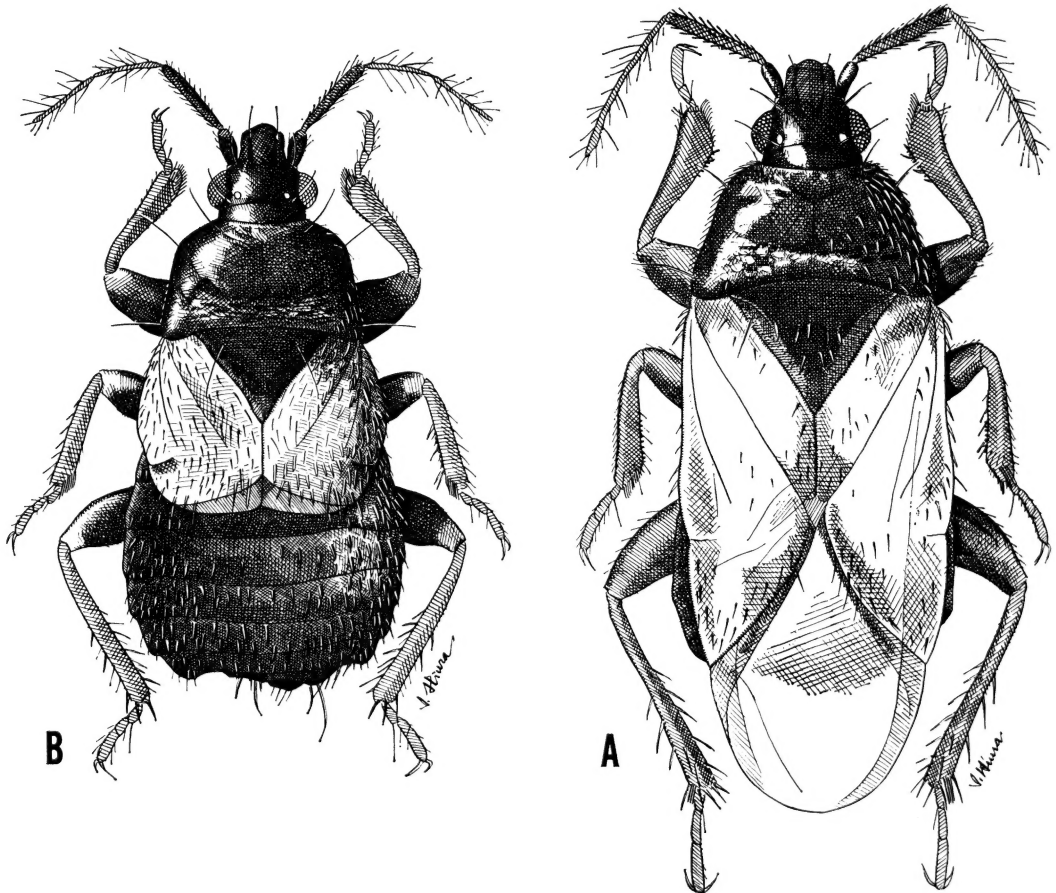


Fig. 2. General aspects of *Xylocoris cursitans* (FALLÉN) (B: brachypterous male from Hokkaido) and *X. galactinus* (FIEBER) (A: male from Tokushima Pref.)

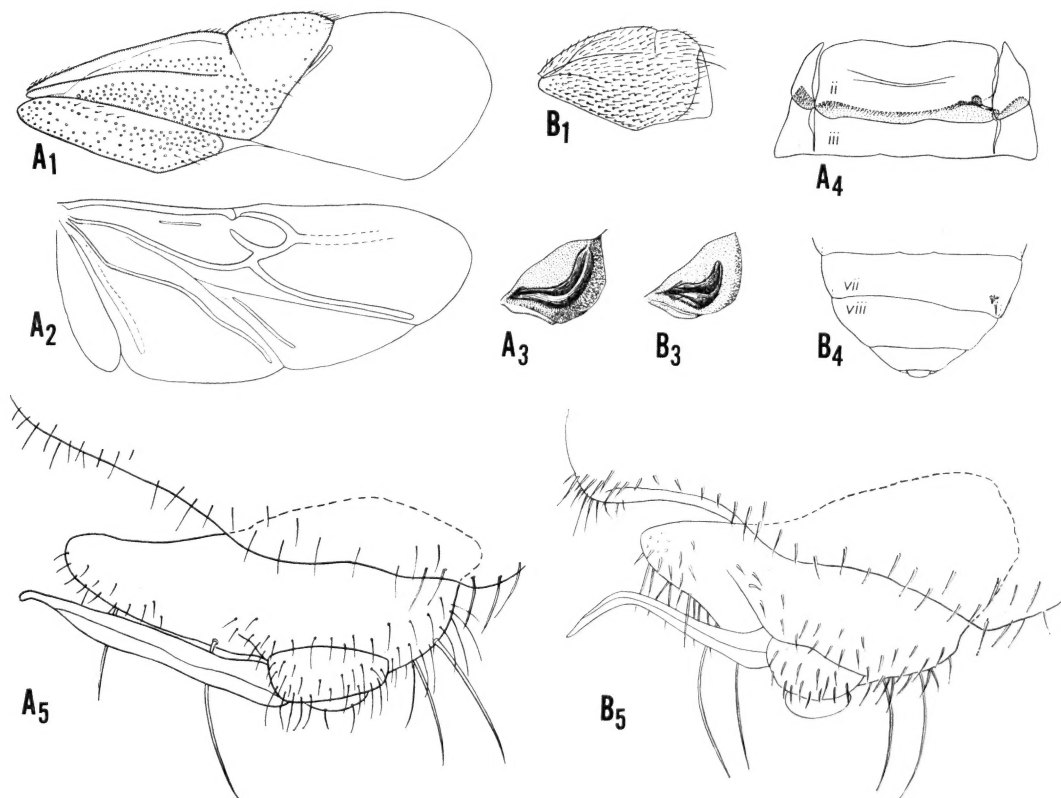


Fig. 3. Forewing (1), hindwing (2), metasternal scent-gland orifice (3), abdominal tergite showing the position of female Ribaga's organ (4) and male pygophore (5)

A: *Xylocoris galactinus*; B: *X. cursitans*

Kaifu-gun, 25. x. 1962 I. Hiura leg., 2♂, Jinzenji, Kôchi City, 13. vii. 1954 K. Morimoto leg., 1♀, Moshima, Okinoshima-mura, Kôchi Pref., 27. vii. 1953 K. Sugimoto leg.

Kyushu: —1♂5♀, Hakozaiki, Fukuoka City, 3. vi. 1954, 3. vii. 1953 I. Hiura leg., 1♂2♀, Harumachi, Fukuoka City, 19–23. viii. 1948 S. Miyamoto leg., 3♀, Nishijin, Fukuoka City, 9. vii. 1957 T. Hidaka leg., 2♀, Nanakuma, Fukuoka City, 21. vii. 1957 C. Ohkuma leg. 4♂2♀, Kurume City, 29. vii. ~21. viii. 1953 S. Miyamoto leg., 1♀, Ohmura, Nagasaki Pref., 4. viii. 1952 S. Miyamoto leg.

Habits: —The bug lives in farm store of wheat straw, sometimes in the open air stacks of rice straw. Suwanomori specimens were obtained under the piles of dead sea-grass on the beach. Often appearing at the lamp.

Xylocoris cursitans (FALLÉN, 1807) (figs. 2B, 3B₁~B₅)

“Kobane-Ashibuto-Hanakamemushi”

1884 *Piezostethus cursitans* REUTER, Acta Soc. Sci. Fenn., 14 : 597–598

1930 *Xylocoris cursitans* TORRE-BUENO, Bull. Brookl. Ent. Soc., 25 (1) : 11–20

- 1955 *Xylocoris cursitans* HOBERLANDT, Acta Ent. Mus. Nat. Pragae, Suppl. 3 : 16
 1959 *Xylocoris cursitans* STRAWINSKI, Fragm. Faun. Polska Akad. Nauk., 8 (15) : 237
 1959 *Xylocoris cursitans* SOUTHWOOD & LESTON, Land & Water Bugs Brit. Isl., 185-186
 1959 *Xylocoris cursitans* STICHEL, Illust. Bestim. Tab. Wanzen Europa, 3 (2):53-58
 1961 *Xylocoris cursitans* TAMANINI, Ann. Inst. Mus. Zool. Univ. Napoli, 8 (2):41
 1961 *Xylocoris cursitans* CARAYON, S. African Animal Life, 8 : 550

Distribution:—Europe, North and South Africa, Greek, Turkey, South Russia, Turkestan, Siberia and U.S.A.

Specimens examined: —1 brachypterous ♀, Framingham, Mass., U.S.A., 13. iii. 1938, 4 brachypterous ♀, Yablonya, N. Manchuria, 27. iv. 1942 Gen Yamamoto leg., brachypterous 2♂ 1♀, macropterous 1♀ and 2 larvae, Bera, Hokkaido, 8. vii. 1958 S. Miyamoto leg., macropterous 2♂ 1♀, Togaru, Monbetsu-gun, Hokkaido, 11. viii. 1955 K. Morimoto leg., macropterous 2♂ 2♀, brachypterous 2♂ 1♀ and 5 larvae, Ashoro, Hokkaido, 25 & 28. vii. 1959 K. Morimoto leg., macropterous 3♂ 1♀, brachypterous 2♀, Shizen-en, Meguro, Tokyo, 6. ix. 1947 H. Hasegawa & T. Okutani leg.

Habits:—The bug lives under the bark of woods, e.g. *Ulmus davidiana* var. *japonica* in Hokkaido, and *Pinus densiflora* in Tokyo.

Genus *Lyctocoris* HAHN, 1835 (*Lyctocorinae*)

Lyctocoris beneficus (HIURA, 1957) **comb. nov.** (figs. 4B₁~B₃, 5B)

"Zuimushi Hanakamemushi"

- 1955 *Euspudeius* sp., MIZUKAMI & OHO, Shokubutsu-Bôeki, 9 (1), 10 figs.
 1957 *Euspudaeus beneficus* HIURA, Sci. Bull. Fac. Agr. Kyushu Univ., 16 (1) : 31
 1957 *Euspudaeus beneficus* MIYAMOTO, Sieboldia, 2(1) : 76
 1960 *Euspudaeus beneficus* HASEGAWA, Bull. Nagaoka Mun. Sci. Mus., 1 : 49
 1961 *Euspudaeus beneficus* MIYAMOTO, Sieboldia, 2 (4) : 220, figs. 142-3

This species was considered as one of the members of the genus *Euspudaeus* when the author described it as a new species. Genus *Euspudaeus* was established by O. M. REUTER (1884) in his "Monograph" of the family, based on only one specimen of *E. funebris* MOTSCHULSKY from Ceylon. By the original description, DISTANT's figure of type specimen (1906) and POPPIUS's key (1909), it differs from *Lyctocoris* only in the structures of pronotum and hemielytra—Pronotum centrally with longitudinal canal, lateral margin sinuate and not marginate, apical angle flattened; hemielytra shining, coarsely punctate, cuneus levigate, membrane provided with four distinct veins.

Through the courtesy of Prof. S. MIYAMOTO and Mr. H. HASEGAWA, the author has had the good fortune to examine some foreign specimens of *Lyctocoris campestris*, the type species of the genus. Comparison between *L. campestris* and *E. beneficus* reveals the status of the latter. *E. beneficus* has a longitudinal groove in the middle of pronotal disc,

but very shallow and retired one also presents in *L. campestris*. Lateral margin of pronotum is margined in *campestris*, but not in *beneficus*; sinuation of the margin is equal in both species. Cuneus is punctured shallowly in *campestris*, and is rugose but not punctured in *beneficus*. Membrane provided with one distinct and three obsolete veins in both species. Structures of head and legs, venation of hind wings, shape of scent-gland canal, carination of metasternum, and genitalian structure of the male are all fundamentally equal in two species. These characters indicate *beneficus* must be belonged to *Lyctocoris*. Independency of the genus *Euspudaeus* from *Lyctocoris* is very doubtful for the author.

Distribution: —Japan Honshu (Yamagata, Gumma, Tokyo, Saitama, Kanagawa, Niigata, Nagano, Mie, Nara, Hyogo, Okayama, Hiroshima, and Yamaguchi Prefs.), Sado, Shikoku (Tokushima and Kôchi Prefs.) and Kyushu (Fukuoka and Saga Prefs.).

Specimens examined:—Honshu: 1 ♂ 4 ♀, Shariki-buraku, Shariki-mura, Nishitsugaru-gun, Aomori Pref., 20. vii. 1964 I. Hiura leg., 4 ♀, Shirahama Coast, Hachinohe City, 11. vii. 1963 I. Hiura leg., 1 ♀ 3 larvae, Okan-yô, Tanohata-mura, Shimohei-gun, Iwate pref., 13. vii. 1963 I. Hiura leg., 1 larva, Furusato-mura, Nei-gun, Toyama Pref., 9. x. 1959 I. Hiura leg., 1 larva, Nakamura, Yamada-mura, Nei-gun, 10. x. 1959 I. Hiura leg., 1 ♂ 1 larva, Arayama, Yatsuo-cho, Toyama Pref., 10. x. 1959 I. Hiura leg., 1 ♀ 2 larvae, Doyama, Nishitonami-gun, Toyama Pref., 14. x. 1959 I. Hiura leg., 2 ♂ 1 ♀ 2 larvae, Sosogi Coast, Noto, Ishikawa Pref., 9. x. 1960 I. Hiura leg., 3 larvae, foot of Mt. Asama, Futami-cho, Mie Pref., 11. x. 1958 (1 larva emerged on 15. xi. ♀), 2 ♂ 2 ♀ 2 larvae, Ueno, foot of Mt. Ibuki, Shiga Pref., 10. v. 1959 I. Hiura leg., 2 ♂, Urajiro-tôge, Tsuzuki-gun, Kyoto Pref., 28. i. 1959 I. Hiura leg., 1 ♀, Chihayaguchi Iwase, Kawachinagano City, 18. vi. 1962 I. Hiura leg., 1 ♂, Shijyonawate Station, Kitakawachi-gun, Osaka Pref., 13. x. 1957 Y. Okada leg., 2 ♂ 1 ♀, Yokoi-mura, Okayama City, 20. x. 1959 I. Hiura leg., 1 ♂, Hôgi-cho, Kedaka-gun, Tottori Pref., 22. x. 1959 I. Hiura leg.

Awaji Is.: 4 ♂, Fukui, Nantan-cho, 15. iii. 1963 I. Hiura leg.

Shikoku: 1 ♂, Nasa Coast, Kaifu-gun, Tokushima Pref., 25. x. 1962 I. Hiura leg., 1 ♂, Shishikui, Kaifu-gun, 26. x. 1962 I. Hiura leg., 1 ♀ 28. vi. 1954, 1 larva 9. vii. 1958, 2 ♀ 9. viii. 1954, Uetsuno, Jinryo-mura, Tokushima Pref., I. Hiura leg.

Kyushu: 1 ♂, Kashii, Fukuoka City, 19. ix. 1957 K. Morimoto leg., 1 ♀, Magaribuchi near Fukuoka City, 22. iv. 1956 T. Hidaka leg., 1 ♂ 1 ♀, Mt. Ukidake, Saga Pref., 30. v. 1958 T. Hidaka leg.

Habits:—The bug lives in open air stacks of rice-plant straw, and is sometimes predaceous upon Rice Stem Borer, *Chilo suppressalis* WALKER. Found also in farm store, in the thatch, in the piles of fire wood, grass (e. g. *Miscanthus sinensis*), and harvested plants (e. g. wheat, sweetpotato-vine, broad-bean stem). Often appearing at the lamp.

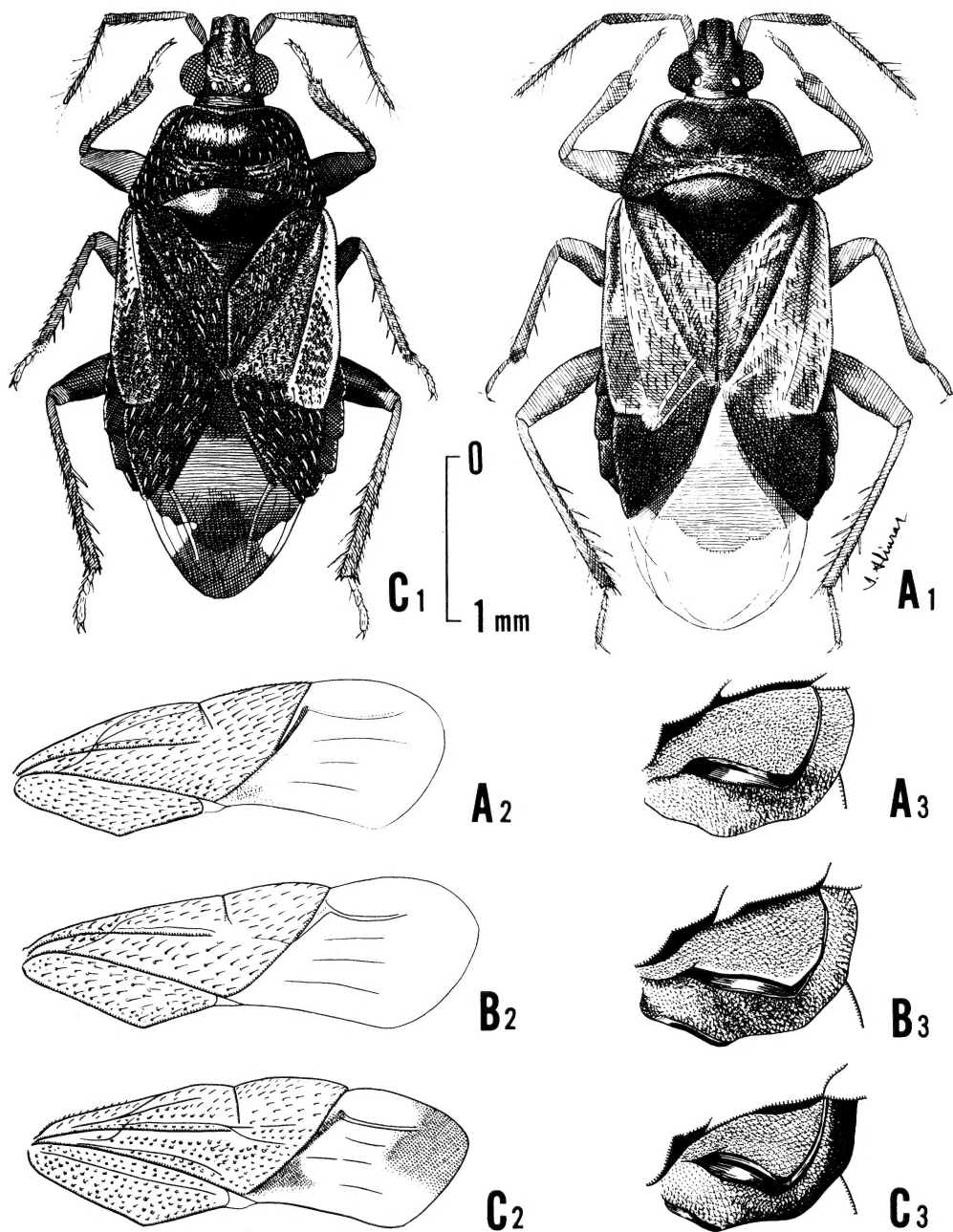


Fig. 4 General aspects of male (1), fore wings (2) and scent-gland orifices (3) of *Lyctocoris*. A: *Lyctocoris campestris* (FABRICIUS); B: *L. beneficus* (HIURA); C: *L. hasegawai* n. sp.

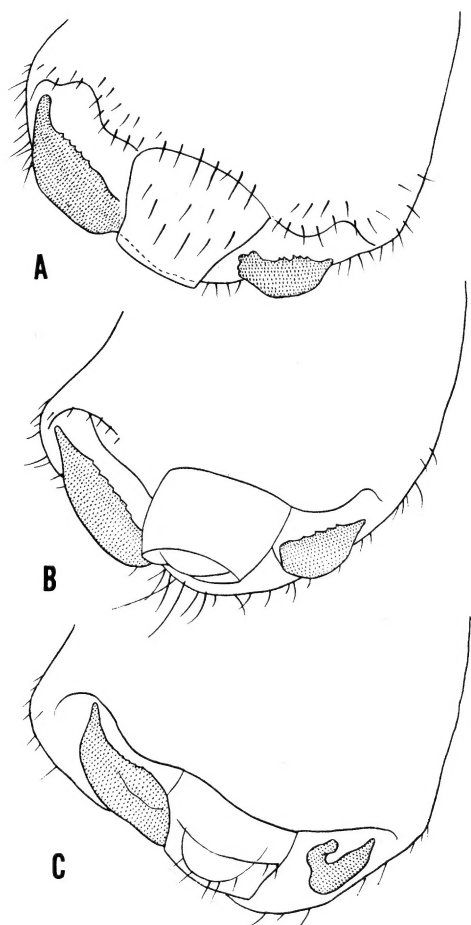


Fig. 5 Male pygophore, dorsal aspect. A :
Lyctocoris campestris; B: *L. beneficus*;
C: *L. hasegawai* n. sp.

***Lyctocoris hasegawai* sp. nov.**

(figs. 4C₁~C₃, 5C)

Upper surface shining, colour dark brown ; antennae, legs, apical end of embolium, front (outer) margin of corium yellowish ; membrane of hemielytra yellowish hyaline, basal corner and apical one fourth brownish.

Body depressed, oblong-ovate ; head and pronotum incline forwards, cuneus and membrane slope backwards.

Head shorter than wide including both eyes (neck except), upper surface coarsely and strongly punctured ; vertex narrower than twice of width of eye (7 : 13) ; eyes large and prominent. Antennae slender, first segment stout, slightly surpassing the apex of head ; second segment thickened towards the apex, shorter than width of head with eyes (23 : 28), densely pilose with hairs shorter than or equal to diameter of the segment ; last two segments slender, filiform, with hairs longer than diameter of the segments ; antennal proportions are I : II : III : IV = 7 : 23 : 13 : 14. Rostrum stout, last segment slender, reaching the middle coxae, visible first segment reaching the middle of eye, proportions of visible three segments are II : III : IV = 13 : 37 : 15.

Front margin of pronotum nearly straight, hind margin broadly curved, lateral margins sinuate and distinctly margined ; collar very narrow and obsolete ; anterior half of pronotal disc swollen and coarsely punctured or rugose, without distinct longitudinal groove centrally, posterior half of the disc weakly convex, densely punctured ; hind margin broader than twice the width of front margin of collar (55 : 21). Anterior half of scutellum convex and levigate, posterior half flat and transversely rugose.

Hemielytra shining ; clavus, corium and embolium densely and deeply punctured, punctuation of cuneus very shallow ; embolium as long as twice of the cuneal length (58 : 31). Membrane with one distinct and three obsolete veins. Hamus of hind wing branched from connecting vein. Legs normal, fore and middle tibiae with a row of very little teeth

at the inner margin and with distinct spongy structure on the apical end.

Mesosternum wide, centrally longitudinally grooved; metasternum short and narrow, carinated centrally. Canal of scent-gland comparatively broad, nearly straight, jointing at a sharp right angle with a fine carina run parallel with outer margin and extend to anterior margin of pleuron. Teeth of inner margin of male parameres obsolete.

Length 3.5 mm., width 1.2 mm.

Holotype 1 ♂, paratopotypes 2 ♂, Baron, Formosa, 10. viii. 1941 H. Hasegawa leg. (Coll. Nat. Inst. Agr. Sci.). Paratypes: 1 ♀, Kanzangoe (Taitôchô), Buruburu-Kaimosu, Formosa, 12. viii. 1932 T. Esaki leg.; 1 ♂, Jujiro near Mt. Ari, Formosa, 6. vi. 1938 S. Nomura leg. (Coll. Kyushu Univ.).

This bug resembles to *Lyctocoris nidicola* E. WAGNER from Finnland in the coloration of membrane, but differs from it by the narrower vertex and slender parameres. It allies also to *L. dorni* E. WAGNER from S. Italy in the shape of male paramere but vertex is narrower than it.

Habits: —Mr. H. HASEGAWA obtained four specimens on a kind of mashroom allied to "Kawaratake", *Coriolus versicolor*.

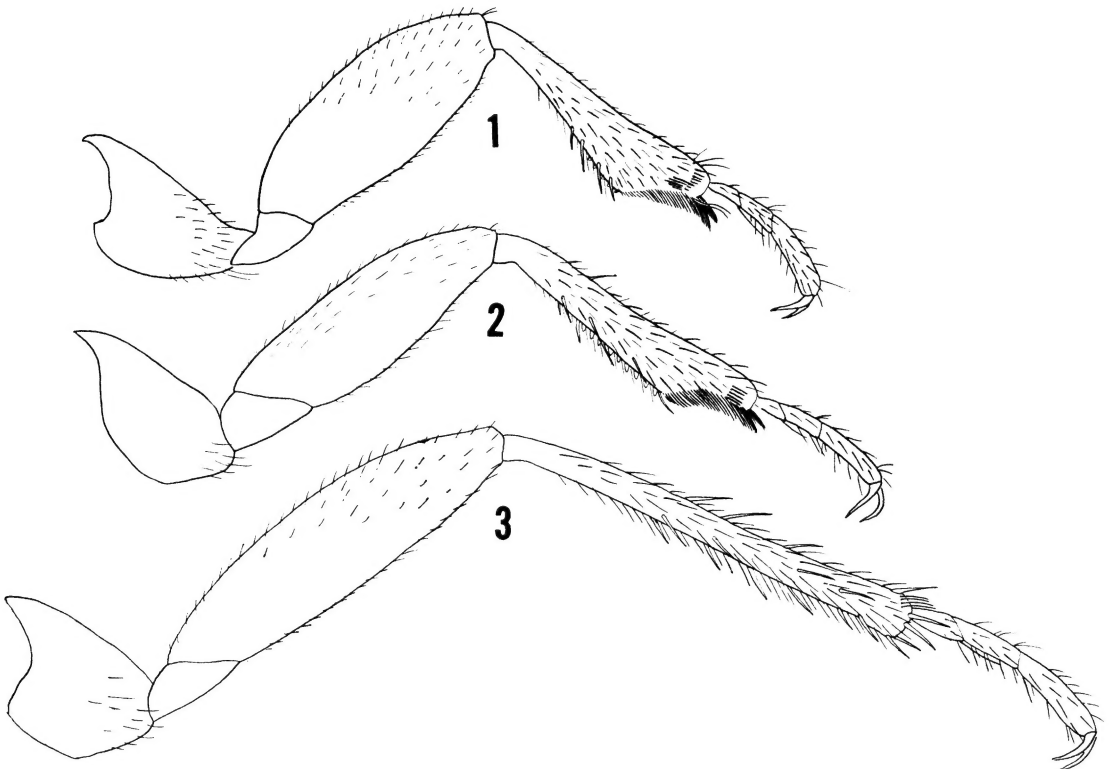


Fig. 6. Legs of *Xylocoris galactinus* (FIEBER).
Fore leg (1), middle leg (2) and hind leg (3),